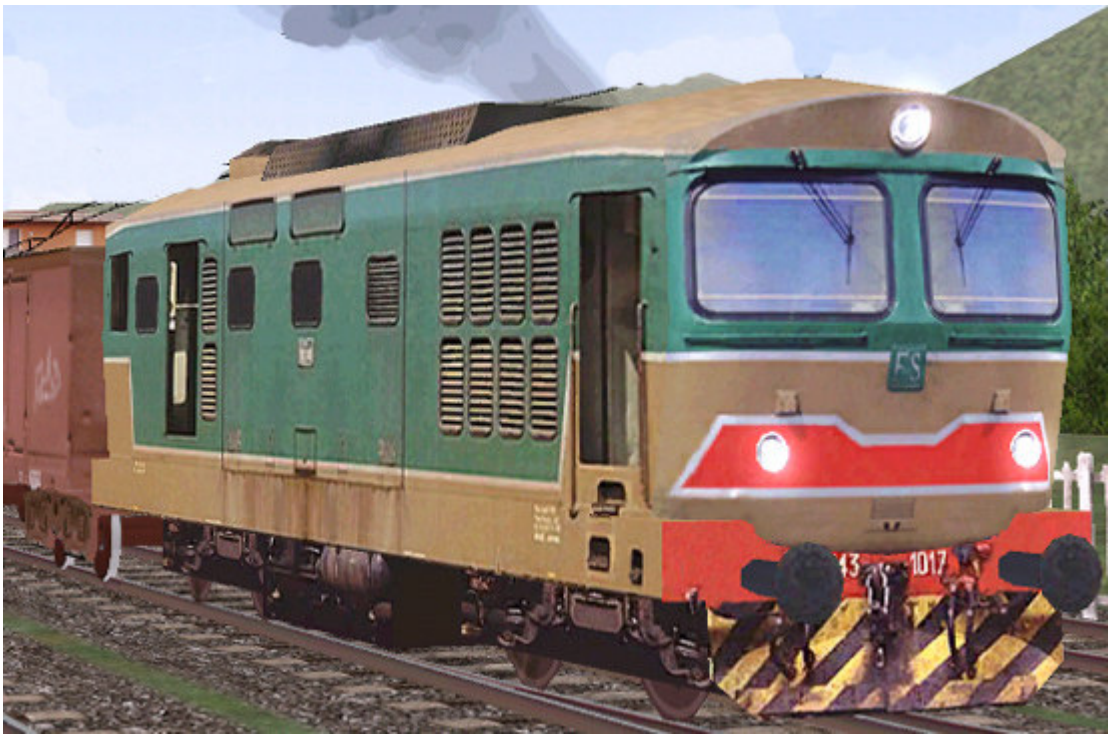
TRAINSIMMING MODERN **ITALIAN** RAILWAYS

Part Tree July 2003



D 343.1000. Model Mr Rokko

In this Part

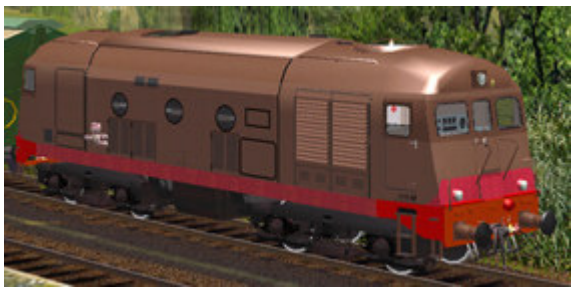
Diesels

The nineties were a period of little change for diesel traction in Italy, with the only new locomotives the 30 medium sized D255.200 shunters used for station pilot duties in North of Italy.

This is essentially due to the decline in the need for diesel traction with the increasing the electrification of the system, although there remains 9000 Km of un-electrified line.

On the down side the D341, which was the first mainline diesel, and some D343 s and D345s were withdrawn from service with some sold to private railways.

The currant family of diesels was developed to replace steam at the end of the sixties, and early seventies. Of those in service the earliest is the class D443 from 1966, from which were developed the class D343, the D345, then the D445, which have electrical heating for carriages and push pull capability.



D341 (First series) – the original main-line diesel, withdrawn from service in the early nineties

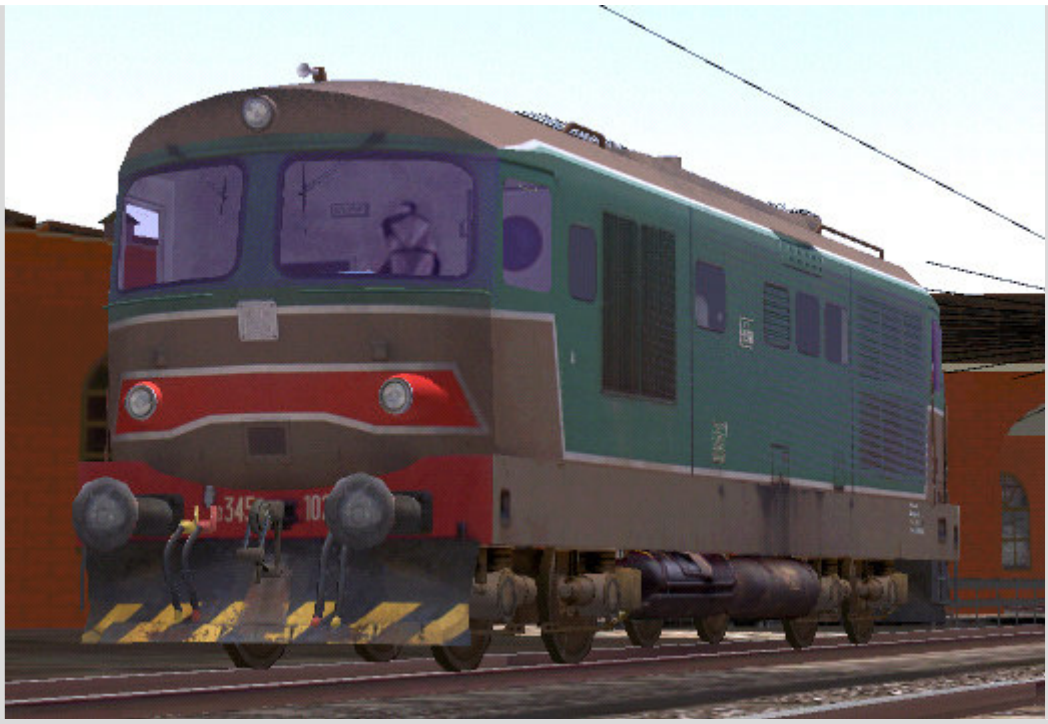
Model Ernesto Imperato, Niels Picciotto

Diesels in Service

Class:	**D343.1**	**D343.2**	The D 343 **pictured on the cover**, was developed from the D 443, but have a lower power for use on less used branch lines. The 1000 series were built by Fiat and the 2000 series by Breda. The Breda ones are more powerful.
Number Built:	**40**	**35**	
Built:	**1967**	**1967**	
Voltage:			D 343 Fiat were allocated to Palermo, Catania and Caltanissetta, while the Breda ones to Cagliari, Sulmona, Cremona, Lecco and Rome Shunting.
Speed:	**130**	**130**	
Multi:			
Push Pull:			Used for light freights and shunting, although the ones in Sicily are used to double head with a D 443.
Number Passenger:			
Cargo:	**13**	**35**	Now being phased out, in particular the FIAT ones, and replaced by D 345 displaced by electrification, although the FIAT ones are being bought by private operators.

Colour schemes: Isabella and green
Use: D.343.1 Freight trains on Sicily
D.343.2 Freight trains, has a more powerful engine

Class:	**D.345**
Number Built:	**150**
Built:	**1974-1975**
Transmission:	**Electric**
Speed:	**130 Km/hr**
Max Cont Power	**990 kW**
Multi:	
Push Pull:	
Number Passenger:	
Regionale:	**24**
Cargo:	**110**



Colour schemes: Isabella and Green
Use: Freight; Passenger (with a Wagon for heating the carriages)

Designed at the beginning of the 70's to replace steam traction, which was used on many local lines, both for freight trains and some passenger trains.

The D 345 is an improved version of the D 343, and the first unit was delivered in 1974: In 1977, the last regular passenger train with steam traction disappeared (steam locos were used for freight and shunting services for a few years more).

D 345 are found all over Italy, and although new electrifications have reduced more and more their range

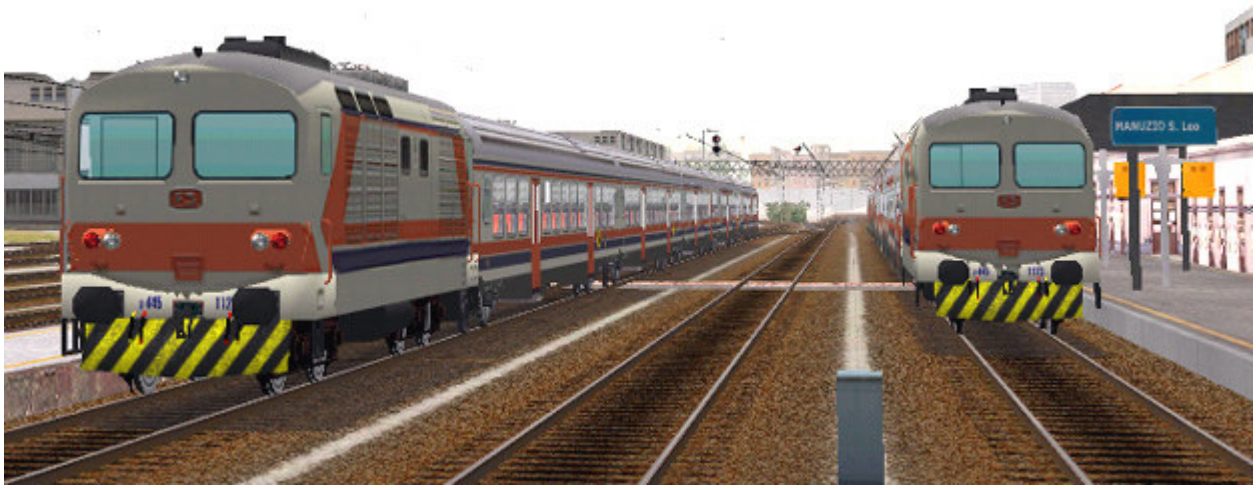
Model: Mr Rokko

Class:	**D 443**	No Model currently availiable
Number Built:	**50**	
Built:	**1966**	
Transmission:	**Electric**	
Speed:	**130 km/hr**	
Power	**1400 kW**	
Multi:		
Push Pull:		
Number Cargo:	**50**	
Colour	Isabella and green	

Use: Now mainly Freight

Built by FIAT 1001-1030, and Breda 2001-2020 from 1966, but with different engines.

The FIAT ones allocated to Scilly where they pulled Passenger and freight, and the south of Italy. The Breda ones to Sardinia or Cremona in the North of Italy.



Two D 445 in MDVC livery with push pull trains. Inspired by a picture at Borgo S. Lorenzo (Tuscany) 1996
Model: Vittorio Dell'Aquila Repaint: Fabrizio Mungai

Class:	**D.445**
Number Built:	**150**
Built:	**1974 - 1988**
Transmission	**Electric**
Power	**1560kW**
Speed:	**130 km/hr**
Multi:	
Push Pull:	**Yes**
Number Passenger:	
Regionale	**119**
Cargo:	

The last step of the evolution of FS Diesel locos, and introduces two important new features with respect to the previous D345.

- The ability to generate 3000V DC power to power the electric heating of the carriages, eliminating their DC generator wagon is no more required.
- Push-pull capability (and therefore is painted in the livery of commuting trains).

Built in three series between 1974 –1988

Colour: Isabella and Green; MDVC

Shunters

Class:	**D 141**
Number Built:	**29**
Built:	**1962**
Transmission:	**Electric**
Speed:	**80 km/h**
Power	**350 kW***
Multi:	
Push Pull:	
Number Passenger:	
Cargo:	**27**

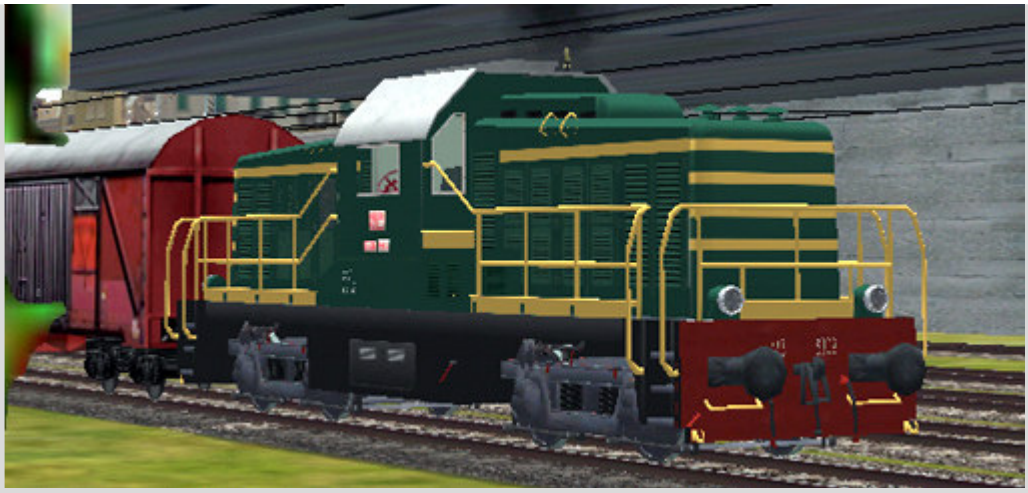
Colour schemes: Green Yellow stripes

Use: Shunting. Similar to the SNCF Class BB 63000

* Last 5 410 kW

Model: PeterPan

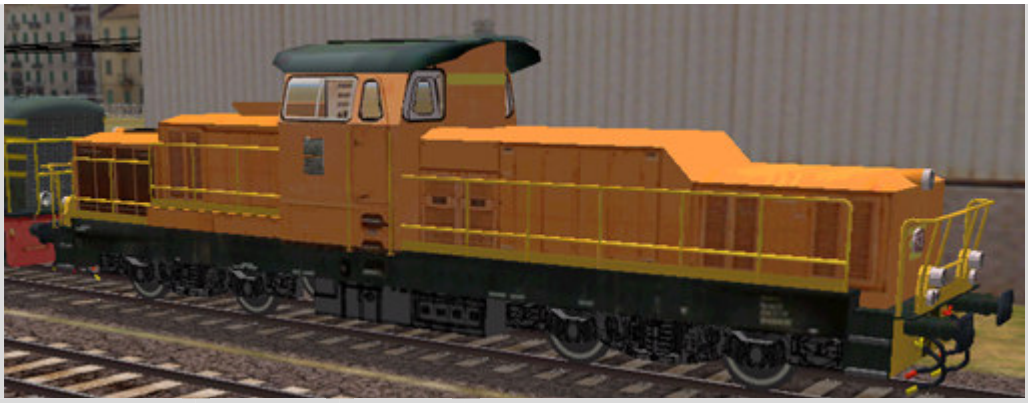
Class:	**D 143**
Number Built:	**49**
Rebuilt:	**1966 - 1974**
Transmission:	**Electric**
Speed:	**70 km/h**
Cont Power	**335kW**
Multi:	
Push Pull:	
Number Passenger:	**8**
Cargo:	**30**
Infrastructure:	**5**



Colour schemes: Green/ Yellow stripes;

The "Truman's". American Heavy shunters originally built for the US Army in 1942 – 43, with 49 rebuilt between 1966 –74. Used for freight trip work and shunting, particularly passenger stock

D143 Model: Enrico Onori

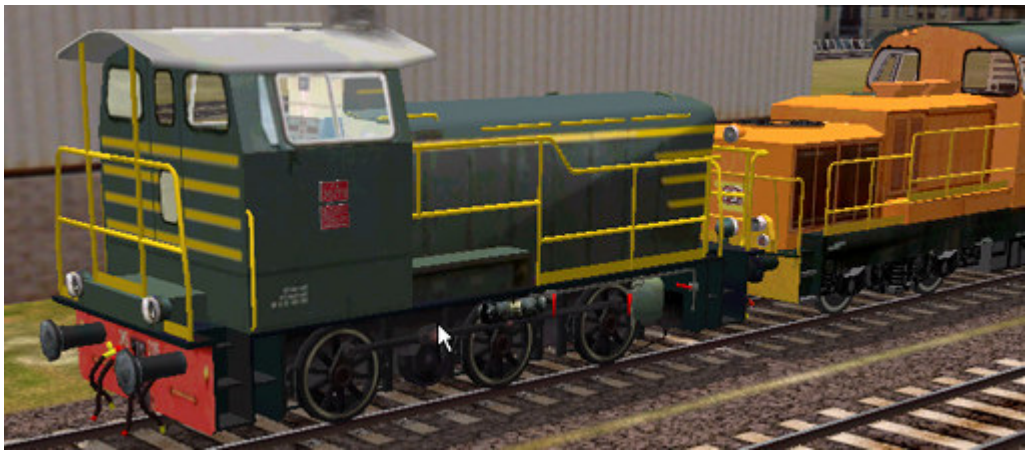


Class:	**145.100**	**145.200**	Use:
Number Built:	**38**	**62**	Freight Shunting and station pilot duties. The D145.2000 has a different engine and slightly different body
Built:	**1982**	**1983**	
Transmission:	**Electric**	**Electric**	
Speed:	**100 km/hr**		
Max Conti:	**620 kW**	**680 kW**	
Push Pull:			
Number Passenger:			
Cargo:	**34**	**52**	

Colour schemes: Orange
Model: A 245 at Vintimiglia Summer 2002 Model Mr. Rokko

D 245

Diesel shunters with Voith Diesel hydraulic drive.



A 245 with a 145 at Ventimiglia Summer 2000.

Model:

Class	No Built	When	Speed Yards/ main	P passenger C Cargo	Notes
245.0	58	1964	32/65	9 P 37 C	Standard shunter but wider body than the rear
245.1	20	1965	32/65	4 P 9 C	With new FIAT engine
245.2	20	1965	32/65	4 P 11 C	As 251.1 with BRIF engine
245.21	186	1976	30/60	27 P 124 C	As 245.2
245.6	9	1963	32/65	3 P 2 C	Test class for 245.601
245.601	115	1965	32/65	18 P 91 C	

D255.2

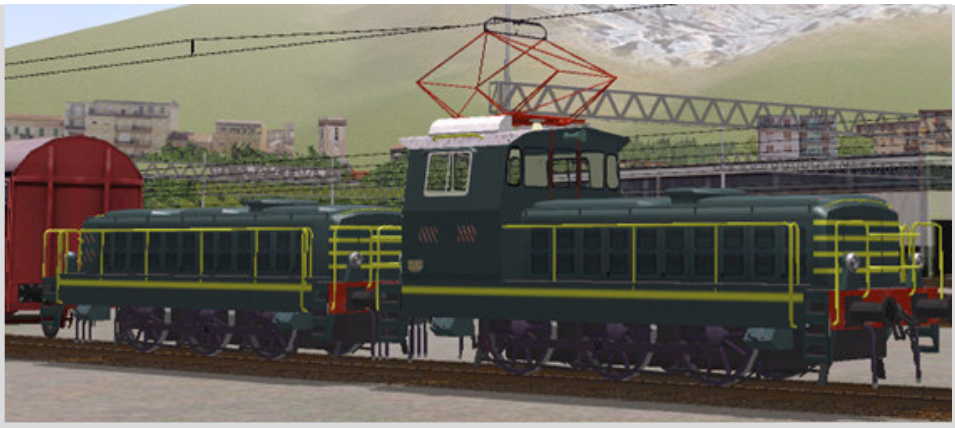
A centre cab diesel Hydraulic shunter, painted magenta.

255.2	30	1991	64	6 Pas 24 Cargo	Used in stations between Bologna and Milano

D.146

Thirty-two large shunters ordered from FIREMA.

Class:	**E323 /E324**
Number Built:	**30**
Built:	**1966**
Voltage:	
Speed:	**32/60**
Multi:	
Push Pull:	
Number Passenger:	
Regionale:	**13**
Cargo:	**16**

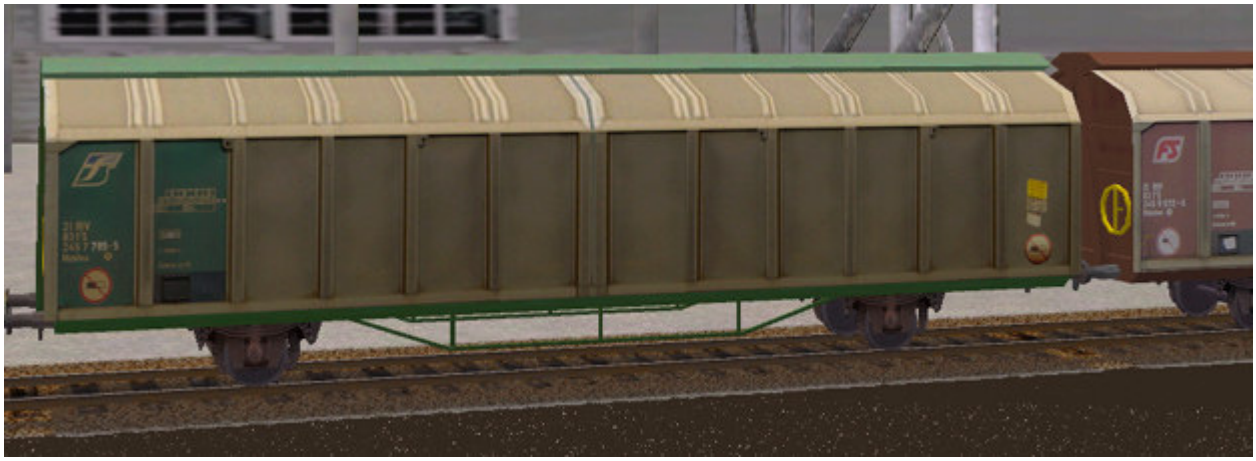


Colour schemes: Green with Yellow stripes
Use: Shunting

An electric shunter with an unmanned mate.

Model: This is actually a model of the similar looking E321 with the mate E233, known as “Cat and Dog”, and now out of service.

Cargo



Hbbinss Sliding wall wagon, in the latest livery, with the one on the right in the older livery.

Reskimming By André of www.mstrainstop.com based on pictures taken when the wagons were at Antwerp

Italy transports 10% of freight by rail, the same as the UK, but less than Switzerland 32%), France (21%) and Germany (17%). (SNCF Figures 2000).

In constant to Diesels, where there was little investment, with cargo there was considerably investment in new wagons, with 7,200 new wagons entering service between 1990 and 1999. The current FS cargo fleet is **49,600.**

Of these the largest amount were 2234 Hbbillns/Hbillns sliding wall wagons, which can be used for carrying palletised items, or white domestic goods (Italy being a major producer of washing machines, fridge's and the like). In addition there were 849 Habis/Habillss.

The next largest group were 974 Eanos, open wagons with double axels, and Sggnss container wagons.

Wagons introduced into service 1990 -1999

Eanos Double axel open wagon	974
Falns Double Hopper Wagon	28
Gbhs Classic closed wagon (long wheelbase)	17
Habis/Habillss 4 axel sliding wall wagon	849
Hbbillns/Habillss 2 axel sliding wall wagon	2234
Hbbins	50
Himrss	51
Saddkms Intermodal wagon	50
Sdgmms Intermodal wagon	225
Sggmrss intermodal wagon	401
Sggnss Intermodal wagon	787
Shimmns/Shmms Sliding roof wagon for transporting steel sheet	450
Tadns/Talns Opening roof hopper wagon	500
Tdns/Tdgns Opening Roof hoper wagon	250
Uans Sliding canvas roof wagon for palletised rood	40
VFaccs Hopper wagon for Internal Service	170
VZs Tank (Cistern) wagon for Internal service	150
	7226

Source Tutto Treno

The Trenitalia cargo site has (in English and Italian) detailed descriptions of the types of wagons in service, as well as short video clips, showing amongst others, loading a H type sliding wall wagon, and a container trains, as well as loading a Rolling highway train (see below).
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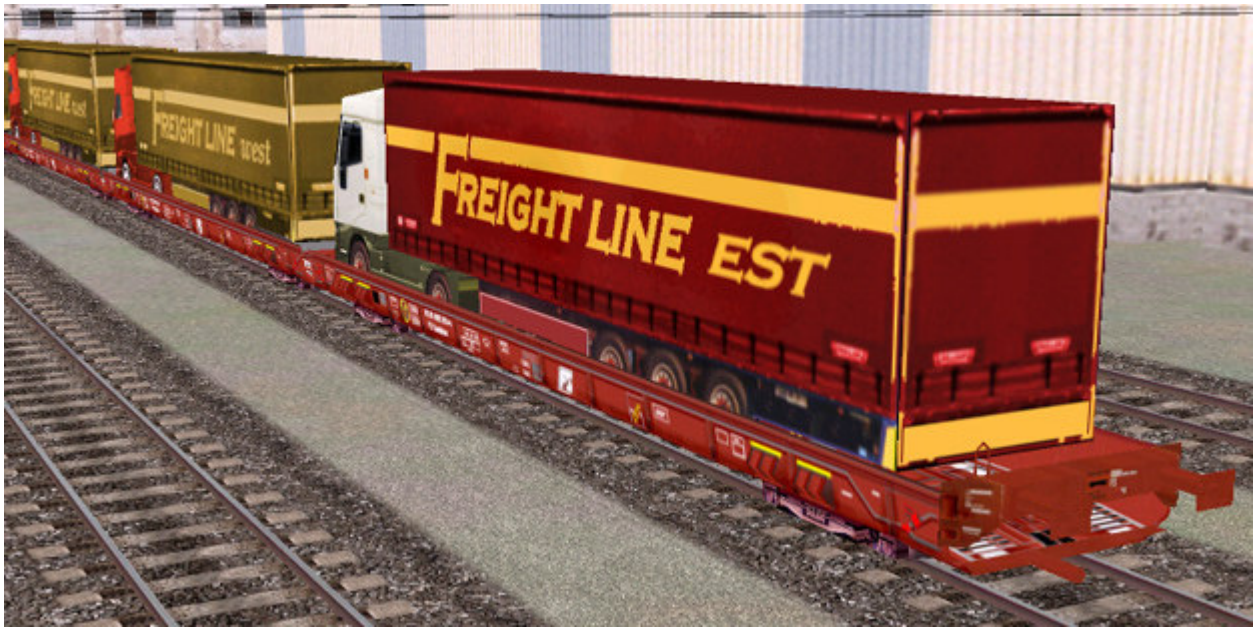
http://www.cargo.trenitalia.it/main

Section transport - Our equipment for the equipment descriptions
Section Info – video clip for the video clips

Rolling Highway.



Rolling Highway. The rear swings open like a gate and the trucks drive on.

Model Pek.

A major development in recent years has been Rolling Highways, which carry Freight lorries and trailers, either across the Alpes, or completely across Switzerland, for example from R.Alpin from Freiburg in Switzerland to Novara in Italy, over the Brenner, and Signen in Germany to Milano.

The main wagon used is the one shown above, where the back (or front) swings open like a gate and the driver derives on, along to the front, as if driving along a narrow bridge.

A different type, now being tested by SNCF, has the wagon pivot in the middle, and the driver drive on. He then leaves the trailer, and goes and drives the tractor, onto another rail wagon. The advantages of this second type are that the trailer can be unaccompanied, it is easier to load, and there are no problems if a tractor breaks down.

The drivers go into a wagon at the front of the train.

The economics are that the cost of the journey is offset against the user pays road tolls in Switzerland, the tunnel tolls, and the cost and time of driving through the Alpes road tunnels, which are often subject to delays. In addition the time counts to the drivers recuperation time, so that a change of driver is not necessary.

Resources

MSTS

http://www.trenomania.it/ A Major site for routes, and stock. Has a Quality Control system

http://www.allfreenet.it/train-simulator/ All Free Net – another large selection, but duplicates some of above.

http://digilander.libero.it/pek317/ Pek's site

Railway

http://www.miaferrovia.it Excellent site for Technical details

http://www.locod.it/locostory/index.htm Locostory (In Italian) good section on Diesels

Tutto Trenno Tema 18 *Ferrovie Italiane Anni '90* January 2003

The Number in Use came from the stock tables at the European Rail server http://mercurio.iet.unipi.it/list/italy.html

For details of technical terms see **The Railway Technical pages** http://www.trainweb.org/railwaytechnical/

Others in the series

The Italian series has been translated into Italian by **Francesco Piantedosi** and is available from http://www.trenomania.it/

Trainsimming Modern German Railways (Three Parts)
Trainsimming Modern French Railways (Three parts) (Also in French translated by Ces Price)
Trainsimming Modern Swiss Railways (SBB and BLS).

From www.trains-sim.com www.thetrain.de and www.trainsimfrance.net